General Services Administration
Office of General Counsel
Washington, DC 20405

October 3, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Subject: Federal-State Joint Board on Universal Service, and Forward Looking Mechanisms for High Cost Support for Non-Rural LECs
CC Docket Nos. 96-45 and 97-160

Dear Mr. Caton:

Enclosed please find the original and five copies of the General Services Administration's Reply Comments for filing in the above-referenced proceeding.

Sincerely,

Michael J. Ettner

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Senior Assistant General Counsel
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Enclosures

cc: Sheryl Todd, Competitive Pricing Division (4 copies and diskette)
International Transcription Service

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	
Federal–State Joint Board on Universal Service	CC Docket No. 96–45
Forward–Looking Mechanism for High Cost Support for Non–Rural LECs	CC Docket No. 97–160

REPLY COMMENTS
of the
GENERAL SERVICES ADMINISTRATION

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October 3, 1997

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Summary

GSA advocates procedures that will produce the most accurate estimates of the costs for all telecommunications services. These Reply Comments contain recommendations to help increase the accuracy of models that will be used to determine the forward–looking economic costs incurred by non–rural carriers in providing services eligible for Universal Service support.

Cost models should assume that telecommunications managers will seek to minimize the total discounted future costs over the life of the plant. Although the proxy models cannot now simulate this process, they are being extended to provide this important capability.

Some of the modeling procedures suggested by incumbent local exchange carriers rely too heavily on embedded technologies and historical data. These modeling procures also rely heavily on data alleged to be proprietary. GSA strongly urges the Commission to ensure that models and data are forward–looking, and are subject to public scrutiny for verification.

GSA is convinced that cost models should be extended to accommodate all types of wireless access that can be anticipated in the near future. Wireless access is the most economical alternative in some locations, and will become more prevalent as users become experienced with PCS and other technologies.

Finally, modeling efforts have placed insufficient emphasis on the roles of subscriber mix (e.g. business vs. residence) and subscriber size (e.g. single vs. multi–line) in determining costs. GSA recommends that the capabilities of models to reflect these cost relationships be expanded through use of forecast data maintained by incumbent carriers.

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REPLY COMMENTS
of the
GENERAL SERVICES ADMINISTRATION

The General Services Administration ("GSA"), on behalf of the customer interests of all Federal Executive Agencies ("FEAs"), submits these Reply Comments in response to the Commission's Further Notice of Proposed Rulemaking ("FNPRM") released July 18, 1997. In the FNPRM, the Commission requests comments and replies on the appropriate procedures for determining the forward–looking economic costs incurred by non–rural carriers in providing services eligible for Universal Service support.

I. INTRODUCTION

Pursuant to Section 201(a)(4) of the Federal Property and Administrative Services Act of 1949, as amended, 40 U.S.C. 481(a)(4), GSA is vested with the responsibility to represent the customer interests of the FEAs before Federal and state regulatory agencies. The FEAs require substantial quantities of interexchange and local telecommunications services throughout the nation. From this perspective, GSA

has consistently supported the Commission's efforts to bring the benefits of competitive telecommunications markets to all consumers.

In its recent Report and Order on Universal Service, the Commission adopted a plan for establishing universal service support mechanisms for rural, insular and high cost areas that is designed to replace the current "patchwork" of implicit subsidies with explicit support based on the forward–looking cost of services.[1] GSA provided Comments and Reply Comments in the proceedings culminating in that Order to express its views as an end user with a vital stake in the development of more competition for all services.[2]

The instant proceeding parallels the earlier one in that the Commission is now seeking comments on procedures for calculating costs for non–rural carriers that do not submit specific studies for review. GSA is interested in the development of sound costing methods for all carriers since cross–subsidies in any geographical area distort market conditions and impede the development of competition. Consequently, GSA is submitting these Reply Comments to address the "platform" issues concerning outside plant investment designated for comments in Section III–C-2 of the FNPRM.

On September 24, 1997, eleven parties filed comments on customer location issues — AirTouch Communications, Inc. ("AirTouch"); Aliant Communications Co. ("Aliant"); Ameritech; AT&T Corp. and MCI Telecommunications Corp. ("AT&T/MCI"); Bell Atlantic; BellSouth Telecommunications Inc., US West, Inc., and Sprint Local Telephone Companies (jointly "BellSouth"); the Florida Public Service Commission; GTE Service Corporation ("GTE"); Northern Telecom, Inc.; Rural Utilities Service

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1 Federal-State Joint Board on Universal Service, CC Docket No. 96–45, *Report and Order*, FCC 97–157, released. May 8, 1997 ("Order").

2 CC Docket No. 96–45, Comments of the GSA, April 12, 1997; and Reply Comments of the GSA, May 7, 1997.

("RUS"); and TDS Telecommunications Corp. ("TDS Telecom"). In these Reply Comments, GSA will address the positions advanced in the comments by these parties. GSA anticipates submitting comments on additional topics in the FNPRM.

II. THE NEED FOR ACCURATE ESTIMATES SHOULD BE THE PARAMOUNT CRITERION IN EVALUATING COST MODELS.

While the platform employed to estimate outside plant investments for universal service calculations may be considered primarily a "carrier" issue — as indicated by the fact that most parties submitting comments on this topic were carriers or groups of carriers — GSA has a major stake in this subject. Comments filed in this proceeding demonstrate the importance of cost models in developing accurate estimates of the costs of telecommunications services eligible for Universal Service support.

GSA strongly advocates using models that will produce the most accurate estimates of the costs of all local telecommunications services. In the first place, the FEAs will pay rates and charges based on the costs computed by carriers for these services. In addition, accurate cost estimates will eradicate cross–subsidies that will impede the development of competition which can benefit end users in all parts of the country.

III. MODELS SHOULD REFLECT THE PLANT MIX THAT WILL MINIMIZE FUTURE LIFETIME COSTS.

A. Proxy models have not computed minimum life cycle costs, but they are being expanded to include this capability.

The FNPRM notes that many complex economic tradeoffs are involved in designing the plant used to provide modern telecommunications services.[3] As RUS points out, many geographic factors in addition to loop length influence the costs of

3 FNPRM, para. 56.

telecommunications plant.[4] The appropriate mix of outside plant technologies is determined by the geographic distribution of end users, terrain, weather conditions, and other factors, so that the model used to evaluate the costs of this plant must accommodate many interrelated factors. Furthermore, since the appropriate objective of the cost studies is to estimate future costs, the models must reflect criteria that planners will employ in determining the best means of meeting future telecommunications needs.

While there are a variety of potential criteria that planners might use to make these determinations, GSA is convinced that, at the minimum, cost models should assume that managers will seek to minimize the total discounted future costs over the expected life of the plant. AT&T/MCI agree that efficient carriers will base their decisions on whether to install aerial, buried or underground cable upon investment costs and maintenance expenses.[5] Unfortunately, neither of two major proxy models — the Hatfield model nor the Benchmark Cost Proxy Model ("BCPM") — assumes that telecommunications managers will minimize total outside plant costs over the life of the plant. However, this shortcoming may soon be partially removed. AT&T/MCI state that the next release of the Hatfield model will incorporate an optimization process, allowing the model to select a mix of aerial and buried plant by comparing the lifetime costs of these alternatives.[6]

Optimization of the mix of aerial and buried plant is a significant step. However, GSA believes that the scope of the alternatives considered in the optimization should be expanded greatly to include all placement modes (aerial, buried, and underground) for cable and fiber optic plant used in both feeder and distribution applications.

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4 Comments of RUS, p. 3.

5 Comments of AT&T/MCI, p. 3.

6 *Id.*

Furthermore, as discussed in Section IV of these Reply Comments, the optimization process should encompass wireless access technologies.

B. Outside plant modeling procedures suggested by incumbent local exchange carriers are clearly not forward–looking.

Several local exchange carriers recommend that the Commission eschew proxy models altogether in favor of what they consider to be more direct approaches. For example, Bell Atlantic states that proxy models do not consider all of the variables that an outside plant engineer must consider in making plant mix decisions.[7] The company urges the Commission to use studies of "actual forward–looking" costs at the wire center level.[8]

Aside from the term "actual forward–looking costs" appearing to be an oxymoron, the company's endorsement of this concept is confusing. It is not clear whether the company is recommending use of past costs with future technology, or past technology with costs extrapolated to the future. In either event, the approach falls short of the requirement to model future conditions with costs that can be expected then.

GTE's requests to rely on past data are even more direct. The summary of this carrier's comments contains the following statements:

- Use of actual data will increase the reliability of any model's results.
- Actual sharing practices are a much better predictor of forward–looking sharing plans.
- Actual engineering data will yield more accurate results than either model.[9]

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7 Comments of Bell Atlantic, p. 3.

8 *Id.*, Letter from Joseph Di Bella dated September 24, 1997.

9 Comments of GTE, p. 2.

The Commission must reject the recommendations of this carrier to employ "actual" practices and cost data pertinent to the past.

Admittedly, the proxy models existing today need some significant improvements. However, to discard them would be "to throw out the baby with the bath water." Proxy models should certainly not be discarded in favor of approaches that rely on plant configurations that have resulted from decisions in the past.

C. Models that rely on proprietary data are unlikely to produce accurate estimates of outside plant costs.

The outside plant modeling procedures advocated by a number of incumbent local exchange carriers rely heavily on proprietary information. Indeed, numerous state regulatory proceedings in which GSA has participated in the last 18 months have focused on use of cost models employed by incumbent local exchange carriers to derive the rates to be included in a Statement of Generally Available Terms and Conditions.[10] Without exception, these cost models have been based heavily on data which the incumbent local exchange carrier called "proprietary."

In "theory," the use of "proprietary" data should not pose significant barriers to cost estimation. In practice, however, since it is virtually impossible to independently verify the accuracy of this data, cost estimation procedures that rely on the data are suspect. Regardless of the model that the Commission ultimately adopts, if the structure of the model employs proprietary data, it must be assumed to be biased in favor of the organization supplying the data — either an incumbent local exchange carrier or an intervening party.

To ensure accurate and unbiased estimates of outside plant costs, the cost models should not rely on proprietary data. Commission staff, carriers, other

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10 For example, District of Columbia Formal Case No. 962; Georgia Docket No. 7061–U; Maryland Case No. 8731, Phase II; New Jersey Docket No. BPU 95120631; and Virginia PUC970005.

intervening parties and the general public must be able to verify the accuracy of any data, as well as the validity of any cost relationships, used in the models.

IV. MODELS SHOULD ACCOMMODATE WIRELESS ACCESS TECHNOLOGIES.

A. Models for determining Universal Service costs should accommodate all access alternatives.

Both the Hatfield model and the BCPM develop estimates of costs by using engineering assumptions that reflect access to the public network through wireline technology.[11] The FNPRM requests parties to comment on whether cost models should also portray access through wireless technologies.[12]

GSA is convinced that cost models should not be restricted to wireline access. The models should be extended to all types of access which will be used in the foreseeable future, including terrestrial microwave and satellite links.

Universal Service support is now available for all wireless carriers meeting the eligibility criteria.[13] As AirTouch notes, carriers are permitted to use whatever technology is the most cost effective in a given locality in order to provide supported services.[14] If carriers using wireless access are eligible for Universal Service support, cost models that do not accommodate this technology are clearly too limited.

B. Wireless access is often the most economical alternative, and will become more prevalent.

Wireless access will be the preferred approach in many locations. Bell Atlantic stated emphatically, "A proxy model should include wireless technology as a least–

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11 FNPRM, para. 95.

12 *Id.*, paras. 100–101.

13 Order, paras. 286–288.

14 Comments of AirTouch, p. 6.

cost alternative to wireline technology."[15] Some carriers disagreed, but without significant support. Ameritech asserted that it does not currently deploy wireless local loops, and claims that the company's "experiences in Hungary" indicate that "conditions do not currently exist" to justify deployment of wireless local loops.[16] Aliant asserted, without quantitative support, that inclusion of wireless service in cost models would require them to be far more complex.[17]

Contrary to Ameritech's claim, wireless access is frequently the least costly alternative. AirTouch observes that a number of new wireless technologies are available. Some are well suited to extremely sparse user populations and some optimal for dense urban conditions.[18]

Significant differences between the costs to serve subscribers in densely populated and sparsely populated areas have developed with heavy reliance on wireline access. However, increasing deployment of wireless technologies, including personal communications systems ("PCS") and direct home satellite links to television, should lead to greater use of wireless access for fixed residential telephone services as well. The increased use of wireless access will help to reduce disparities in the costs of local telecommunications service between rural and urban areas. Cost models should be capable of reflecting this trend.

C. Models should not contain caps on access costs.

One version of the BCPM assumes that if the loop investment for a single subscriber exceeds $10,000, an efficient carrier would not employ wireline access, but

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15 Comments of Bell Atlantic, p. 13.

16 Comments of Ameritech, p. 14.

17 Comments of Aliant, p. 6.

18 Comments of AirTouch, pp. 8–9.

employ wireless access instead.[19] Since the BCPM does not accommodate wireless access, the highest cost subscribers may not be modeled at all.

Since the BCPM does not accommodate wireless access, the cap is particularly inappropriate. As Air Touch notes, "[a] model that simply caps costs at a fixed maximum without taking local conditions into account is certain to be inaccurate and may allow carriers to be overcompensated in situations where wireless technology is in fact more efficient."[20] TDS Telecom also cautioned strongly against use of any standard cost–per–subscriber cross–over point in order to determine when wireless would be more cost–effective than wireline access.[21]

GSA strongly urges that all arbitrary caps be removed, and that models be developed to portray either wireline or wireless access, whichever is the least costly in each local situation.

V. MODELS SHOULD DETERMINE THE COSTS INCURRED WITH THE ESTIMATED FUTURE MIX OF BUSINESS AND RESIDENCE SUBSCRIBERS IN EACH AREA.

A. Proxy models have not reflected important subscriber mix and size variations.

To estimate the costs of service in each geographical area, models must reflect the anticipated mix of the various types of subscribers that pose different demands on the switched network. The FNPRM mentions some distinctions between the treatment of business and residence users in the two principal proxy models in discussing outside plant platform issues,[22] but it is apparent that subscriber mix (*e.g.* business vs. residence) and subscriber size (*e.g.* single vs. multi–line) have been given relatively

19 FNPRM, para. 96.

20 Comments of AirTouch, p. 8.

21 Comments of TDS Telecom, p. 13.

22 FNPRM, para. 67.

little attention in the principal proxy models. Furthermore, it appears that some models have been designed primarily to estimate the costs for serving residence subscribers, with service to business users as an added feature.

Subscriber density is one of the most important factors for determining the costs of local exchange service. Up to now, the BCPM has measured density by households per square mile,[23] and assumed that customers are uniformly distributed across each area studied.[24] BellSouth asserts that the enhanced BCPM has abandoned the assumption that customers are uniformly distributed. The enhanced model employs a customer location algorithm, using housing and business line data at the census block level, combined with information regarding the road network, to locate subscribers more precisely.[25]

The Hatfield model estimates total subscriber concentration by using lines per square mile as a density measure.[26] However, it appears that the Hatfield model does not explicitly recognize variations in the number of lines per business subscriber among the census blocks in the area being studied.[27]

B. Cost estimates should incorporate forecasts developed by incumbent local carriers for each wire center.

GSA urges the Commission to require that models accurately reflect the important characteristics determining the communications requirements for the subscribers that can be expected in each geographical area. Both the BCPM and the Hatfield model develop estimates of line counts by disaggregating census data. That

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23 *Id.*

24 Comments of BellSouth, p. 3.

25 *Id.*

26 FNPRM, para. 67.

27 *Id.*

procedure ignores an important source of detailed information. To provide the plant needed to serve their customers, incumbent carriers must maintain forecast data on lines and usage by type of customer (e.g. residence, business, multi–line etc.) for each serving wire center. Incumbent carriers should also have forecast data for cellular and PCS subscribers, which are elements of local service that appear to be neglected completely in the current BCPM and Hatfield approaches.

Since the wire center data should be more complete and more suitable as a base for forecasts, it should used to determine geographic disaggregations or to check geographic distributions in proxy models. By matching groups of measurement areas (census block groups, census blocks and/or cells) to wire center boundaries, more accurate cost estimates can be obtained.

VI. CONCLUSION

As a major user of telecommunications services, GSA urges the Commission to implement the recommendations in these Reply Comments.

Respectfully submitted,

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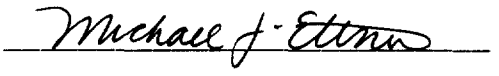

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October 3, 1997

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I MICHAEL J. ETTNER, do hereby certify that copies of the foregoing "Reply Comments of the General Services Administration" were served this 3rd day of October, 1997, by hand delivery or postage paid to the following parties:

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